

McDonnell Douglas (Hughes) and Kawasaki 369 Series Helicopters

AD/HU 369/94
Amdt 2

Main Rotor Blade Doublers

11/98

Applicability: Model 369A, 369D, 369E, 369F, 369FF, 369H, 369HE, 369HM, 369HS, 500N, 600N, and OH-6A helicopters with the following main rotor blades installed: part number (P/N) 369A1100-507, with serial number (S/N) D139 through D203, D209 through D223; P/N 369D21100-517 with S/N H664, H665, H667, H669, H671, H672, H674, H676, H679, H680, H683 through H724, H726 through H999, J000 through J039, J041 through J055; or P/N 369D21102-517 with S/N 1976 through 2100, 2106 through 2115.

- Requirement:
1. For applicable Model 369, 500N, and OH-6 helicopters:
 - a. With each blade lifted off the droop stop, using a 10x or higher magnifying glass, visually inspect the blade for any chordwise cracking emanating from the root fitting edge on the blade lower surface doubler and skin or cracks on the doubler adjacent to the root end fitting (Figure 1), as specified in the Accomplishment Instructions in Boeing McDonnell Douglas Helicopter Systems Service Bulletin (SB) SB369H-243R3, SB369E-088R3, SB500N-015R3, SB369D-195R3, SB369F-075R3, or SB 600N-007R2, as applicable. If any cracking is discovered, remove the blade and replace it with a serviceable blade.
 - b. With each blade lifted off the droop stop, inspect the lower surface for missing or cracked adhesive or paint at the root end fitting-to-doubler bond line (Figure 1 of the SB Accomplishment Instructions). If any missing or cracked adhesive or paint is discovered, remove and inspect the blade in accordance with paragraph 3.E. of Part II of the Accomplishment Instructions in McDonnell Douglas Helicopter Systems Service Information Notice HN-239, DN-188, EN-81, FN-67, or NN-008, as applicable. If there is any disbonding in excess of the allowable margins specified in paragraph 3E of Part II of the applicable service information notice, remove the blade and replace it with a serviceable blade.
 2. For the Model 600N helicopters:

Remove any affected blade from service and replace it with a serviceable blade not listed in the applicability section of this Directive. Blades removed from the Model 600N are not eligible for use on any rotorcraft.
 3. Affected blades are to be removed from service on or before reaching either of the applicable new life limits. The new life limits are determined by hours time in service or number of torque events (TE). A TE is defined as the transition to a hover from forward flight. For this definition of TE, forward flight is considered to be flight at any airspeed after attaining translational lift.
 - a. For blades that do not have TE logged, before further flight, log the TE in the aircraft logbook or equivalent record as follows:
 - i. Log the TE, if known.

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- ii. For non-cargo hook operations, if the number of TE is unknown, log 6 TE for each hour time in service.
 - iii. For cargo hook (external load) operations, or for any combination of non-cargo hook operations and cargo hook (external load) operations, if the number of TE is unknown, log 20 TE for each hour time in service.
- b. Make an entry into the component record or equivalent record to reflect new life limits for blade part numbers as follows:
- i. For part number 369A1100-507, Models 369A, 369H, 369HE, 369HM, 369HS, and OH-6A, enter 1,750 hours time in service or 10,600 TE, whichever occurs first.
 - ii. For part number 369D21100-517, Models 369D and 369E, enter 2,500 hours time in service or 15,000 TE, whichever occurs first.
 - iii. For part number 369D21102-517, Model 369F, 369FF, and 500N, enter 2,500 hours time in service or 15,000 TE, whichever occurs first.
4. After compliance with Requirement 3 of this Directive, during each operation thereafter, maintain a count of TE performed and additional hours time in service accumulated, and, at the end of each day's operations, add those counts to the accumulated number of TE and hours time in service on the aircraft logbook or equivalent record.
5. The blades are no longer retired based upon only hours time in service. This Directive revises the Airworthiness Limitations Section of the maintenance manual by establishing a new retirement life for certain blade part numbers based on hours time in service or a number of TE, whichever occurs first.

Note: FAA AD 98-15-26 Amdt 39-10675 refers.

Compliance: For Requirement 1. Unless already accomplished, before further flight after 4 February 1998 for affected main rotor blades that have accumulated 600 or more hours time in service; thereafter at intervals not to exceed 25 hours time in service.

For Requirement 2: Before further flight after 4 February 1998.

For Requirements 3, 4, and 5: As specified in each Requirement.

The compliance of the previous issue of this Directive remains unchanged for Requirements 1 and 2.

This Amendment becomes effective on 8 October 1998.

Background: This Directive was prompted by an accident in which a main rotor blade failed on a Model 369D helicopter due to cracks. The blade that failed had accumulated over 2,300 hours time in service. Subsequent investigation revealed cracks in two other blades on the same helicopter. The cracks had initiated in the lower inboard doubler and propagated in a chordwise direction through the blade skin and spar. These fatigue cracks may have been caused by residual stresses induced by non-conforming doublers that were used to construct the blade.

Amendment 1 introduced new Requirement Documents, limited the affected blades to certain serial numbers, and reduced the inspection threshold time.

Amendment 2 is issued in response to a new FAA AD which requires the same inspections required by the previous FAA AD, but deletes the Model 369, specifies recording torque events, and establishes a shorter retirement life for certain blades.

Amendment 1 of this Airworthiness Directive became effective on 4 February 1998.

The original issue of this Airworthiness Directive became effective on 8 January 1998.